

Date: Monday, 5/15/2006 7:08:05 AM
 User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : HIGH AFT X-TUBE 412
Job Number : 27082	
Estimate Number : 10559	
P.O. Number : N/A	Part Number : D412664203
This Issue : 5/15/2006 S.O. No. : N/A	Drawing Number : D412-664-243 REV B
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : LANDING GEAR	Drawing Revision : B
Previous Run : 26675	Material : N/A
Written By : <u>SEE COMMENT BELOW</u>	Due Date : 5/30/2006 Qty: 1 Um: Each
Checked & Approved By :	
Comment : Est Rev:E 04.02.16 Reformat; Added D3189-1 K/DS Est Rev:F 06-03-29 Remove Coments on Pick List JLM	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0

DC

DOCUMENT CONTROL

**Comment:** DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 003

KS 06/02/28 ①

2.0

D6009129

Crosstube Material

**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6009-129 Crosstube 25942

Check OD = 3.500"; ID = 2.250"

MS 06/05/15 1

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE

**Comment:** MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA166

2-Turn first side as per Folio FA166

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243.

MS 06/05/15 1

4.0

QC1

INSPECT ALL DIM TO DIM SHEET

**Comment:** INSPECT ALL DIM TO DIM SHEET

MS 06/05/15 1

W/O:		WORK ORDER CHANGES					
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Job Number: 27082

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5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA166

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243.

3-Polish entire outside surface of crosstube

4- Remove sand and plugs

5-Scribe part # and batch # using vibrating stylus as per Dwg D412-664-243

MS 06/05/15 1

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

MS 06/05/15 1

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

BG 06.05.17 1

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 25 06-05-18

9.0

QC3/5

INSPECT WORK/WING WALK



Comment: Inspect work & Chemical conversion Coat

DP 06-5-18

10.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and Folio FT010

DP 06-5-23

11.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

06.05.29 ①

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Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27082

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551 *25 06-05-30*

2-Ream hole to finish size in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551. Check *25 06-05-30*
dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243 *Pm 06-06-01*
25 06-05-30

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 *Pm 06-06-01* *(1)*

14.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038 Or
Issue P/O: *1386* LPI as per ASTM 1417
Level 2 Attach copy of NDT results to work order *C Ld 10/02* *(1)*

15.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage
Ensure copy of NDT results attached to work order. *AS 06/06/09*

16.0

000

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D412-664-203 *06-06-12* *(1)*

17.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2 *FC 06 06 12* *(1)*

2-Paint outside crosstube with White Imron as per QSI 005 4.2 *MM 06 06 13* *(1)*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector	
060601	13.1	Add QCS before NDT. permanent change. <i>[Signature]</i>		<i>[Signature]</i> 06-06-23			<i>[Signature]</i> 06-06-23	
060602	16	Remove QCS, change QCS. permanent change. <i>[Signature]</i>		<i>[Signature]</i> 06-06-23			<i>[Signature]</i> 06-06-23	

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Process Sheet

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Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27082

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

06-06-15 (1)

19.0

D2856600

Abrasion Strip



Comment: Qty.: 1.7640 f(s)/Unit Total : 1.7640 f(s)

Pick:

Qty Part number Description Batch

2 D2856-600(Cut to 10.090") Abrasion Strip

B25656 RT 06-06-19

20.0

D2856600

Abrasion Strip



Comment: Qty.: 1.0080 f(s)/Unit Total : 1.0080 f(s)

Pick:

Qty Part number Description Batch

1 D2856-600(Cut to 10.870") Abrasion Strip

B25656 RT 06-06-19

21.0

D28961

Support



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D2896-1 Support

B26683 RT 06-06-19

22.0

D31891

Chafing Shield



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D3189-1 Chafing Shield

B25678 RT 06-06-19

23.0

MS2192028

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-28 Clamp

M100479 RT 06-06-19

W/O:		WORK ORDER CHANGES					
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Process Sheet

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Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27082

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

MS2192030

clamp(per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 MS21920-30

Clamp

M11729

BT 06-06-19

25.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Assemble as per Dwg D412-664-203

BT 06-06-20

26.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BE 06-06-20

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

28.0

AN640A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch:

M19099

29.0

AN641A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch:

M19633

30.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Washer

Batch:

M180191

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27082

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Nut

Batch: M19099 ✓

P 6/6/21 ①

32.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

A 6/6/21 ②

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D412-664-203

Location:

PPP Rev: D

P 6/6/21 ①

34.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

1
D 6/6/22

Job Completion



U 6/6/22

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD	Work Order:	
Description: Crosstube Assembly (412 High Aft)	Part Number:	D412-664-243
Inspection Dwg: D412-664-243 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.684	+0.005/-0.000	2.689	✓			
	2.748	+0.005/-0.000	2.752	✓			
	2.884	+0.005/-0.000	2.889	✓			
	3.019	+0.005/-0.000	3.024	✓			
	3.163	+0.005/-0.000	3.168	✓			
	3.308	+0.005/-0.000	3.313	✓			
	3.429	+0.005/-0.000	3.433	✓			
	2.990	+0.005/-0.000	2.994	✓			
	2.618	+0.005/-0.000	2.622	✓			
	0.200	+/-0.010	.200	✓			
	R0.063	+/-0.010	.063	✓			
	R0.500	+/-0.010	.500	✓			
	4.971	+/-0.030	4.971	✓			Tol. is ± .030 as per Dwg
SIDE B	2.684	+0.005/-0.000	2.689	✓			
	2.748	+0.005/-0.000	2.753	✓			
	2.884	+0.005/-0.000	2.889	✓			
	3.019	+0.005/-0.000	3.023	✓			
	3.163	+0.005/-0.000	3.168	✓			
	3.308	+0.005/-0.000	3.312	✓			
	3.429	+0.005/-0.000	3.433	✓			
	2.990	+0.005/-0.000	2.994	✓			
	2.618	+0.005/-0.000	2.622	✓			
	0.200	+/-0.010	.200	✓			
	R0.063	+/-0.010	.063	✓			
	R0.500	+/-0.010	.500	✓			
	4.971	+/-0.030	4.971	✓			Tol. is ± .030 as per Dwg
	124.09	+/-0.020	124.09	✓			

Measured by: MS	Audited by: BG	Prototype Approval:	N/A
Date: 06/05/15	Date: 06.05.17	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.06.16	New Issue (P/O D412-664-203)	KJ/JLM	
B	06.03.09	Dwg Rev updated	KJ/JLM	

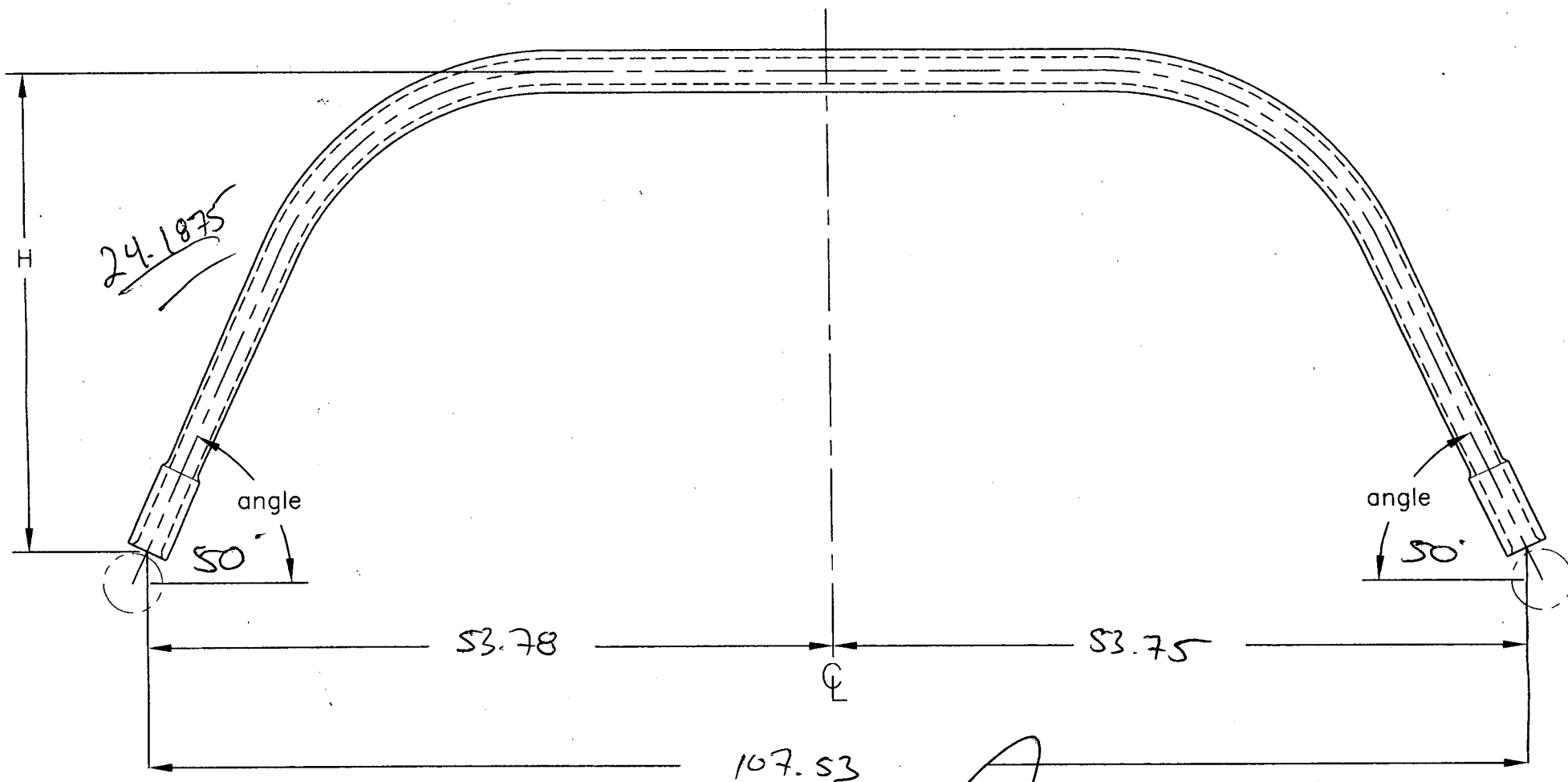
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____



DATE: 06-05-29

DESCRIPTION: 0412-664-203

BATCH NO: 27082

DRAWING: 412-664-243 R.B

H: 24.37 } $\pm .06$

1/2 SPAN: 53.72

TOTAL SPAN: 107.44

ANGLE: 50 \pm

[Signature]
06-05-29



HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 34275

A.M.O. Number: 46/90

NON-DESTRUCTIVE TESTING REPORT

AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

Carry out FPI of (12) cross tube (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (7) P/N D058-676-201 S/N's B19627, B19633, B19631, B19635, B19632, B19624 & B19630

Qty (5) P/N D412-664-203 S/N's B27082, B26672, B27084, B27083 & B26673

☐ RADIOGRAPHY

☐ ULTRASONIC

☒ PENETRANT

☐ MAGNETIC PARTICLE

☐ EDDY CURRENT

INSPECTION REPORT

Fluorescent penetrant inspection was performed in accordance with the above requirements on (12) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)

Ardrox 970P25E Batch #04B503.

(12) cross tubes PASSED inspection.

~~THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH
THE APPLICABLE STANDARDS OF AIRWORTHINESS~~

INSPECTED BY: 

DATE June 8, 2006

INSPECTION
STAMP(S) Not Required

CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER

1386

ADDRESS:

CONTACT NAME:

LABOUR @

\$

MATERIALS @

TRAVEL EXPENSES @

GST

HOTEL EXPENSES @

PST

INVOICE NO.

TOTAL \$

WHITE COPY - INSPECTION FILE • YELLOW COPY - CUSTOMER • PINK COPY - ACCOUNTANT



HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3
Tél: (514) 636-1000 • Fax: (514) 636-0031

W.O. No 34275

A.M.O. Number: 46/90

NON-DESTRUCTIVE TESTING REPORT

AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG.

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

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Qty (5) P/N D412-664-203 S/N's B27082, B26672, B27084, B27083 & B26673



RADIOGRAPHY



ULTRASONIC



PENETRANT



MAGNETIC PARTICLE



EDDY CURRENT

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THE APPLICABLE STANDARDS OF AIRWORTHINESS

INSPECTED BY


S. FLETCHER

DATE:

June 8, 2006

INSPECTION
STAMP(S)

Not Required

CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER:

1386

ADDRESS:

CONTACT NAME:

LABOUR

@

\$

MATERIALS

@

TRAVEL EXPENSES

@

GST

HOTEL EXPENSES

@

PST

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TOTAL \$

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